

What is claimed is:

1. A process for producing olefin by catalytic cracking of hydrocarbon material characterized in employing zeolite of penta-sil type comprising  
5 rare earth elements and at least one of manganese or zirconium as a catalyst.

2. The process for producing olefin according to Claim 1, wherein the contents of said rare earth elements in said catalyst falls within the range  
10 of from 0.4 to 20 expressed as atomic ratio of aluminum in zeolite.

3. The process for producing olefin according to Claim 1, wherein the total contents of manganese and zirconium in said catalyst falls within the range of from 0.1 to 20 expressed as mole ratio of aluminum in zeolite.  
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4. The process for producing olefin according to Claim 1, wherein said catalyst further comprises phosphorous in an amount of from 0.1 to 5 % by mole.

20 5. The process for producing olefin according to Claim 1, wherein the mole ratio of  $\text{SiO}_2/\text{Al}_2\text{O}_3$  among zeolite in said catalyst is from 25 to 800.

6. The process for producing olefin according to Claim 1, wherein a catalytic reaction is carried out under the presence of steam.  
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